

REMARKS

This paper is responsive to the Final Office Action mailed December 24, 2008. After its entry, claims 1-4 and 16 are currently pending in this application and subject to examination.

Reconsideration of the application is respectfully requested in view of the following remarks.

Rejection Under 35 U.S.C § 102(e)

Claims 1 and 2 stand rejected as anticipated under 35 U.S.C. § 102(e) by U.S. Patent No. 6,916,554 B2 to Ma et al. (Ma). Applicants respectfully traverse.

Applicants submit that Ma is disqualified as 35 U.S.C. § 102(e) prior art because compound 11 in Table 1 of Ma (column 18, lines 9-23) was reduced to practice by the co-inventors of the presently claimed invention on a date prior to the November 6, 2002 filing date of Ma. MPEP 715.03(I)(B) (“[W]here the only pertinent disclosure in the reference or activity is a single species of the claimed genus, the applicant can overcome the rejection directly under 37 CFR 1.131 by showing prior possession of the species disclosed in the reference or activity”). Applicants enclose herewith (1) a Declaration pursuant to 37 C.F.R. § 1.131 (Rule 131 Declaration) executed by co-inventors and (2) true and correct copies of laboratory notebook pages (Exhibit A) and ¹H NMR spectra (Exhibit B) establishing the reduction to practice of compound 11 by the co-inventors on a date prior to November 6, 2002. Since the text in Exhibit A is in German, Applicants also enclose, as Exhibit C, a certified English translation of Exhibit A. The dates on Exhibits A and C have been redacted. MPEP 715.07(II). Applicants submit that the Rule 131 Declaration and Exhibits A, B, and C submitted herewith obviate this anticipation rejection of claims 1 and 2 and respectfully request its withdrawal.

Rejection Under 35 U.S.C. § 103(a)

Claims 1-4 and 16 stand rejected as obvious over U.S. Patent App. Pub. No. 2001/0019782 A1 to Igarashi et al. (Igarishi) as evidenced by U.S. Patent No. 5,484,922 to Moore et al. (Moore). Applicants respectfully traverse.

The Examiner asserts that claims 1-4 and 16 are rendered obvious by complex 1-1 on page 10 of Igarishi because it is structurally similar to the claimed compounds, is taught to have similar properties, and is used for the same purposes. Specifically, the Examiner takes the position that the skilled artisan would have found it obvious to substitute the phenyl ring of complex 1-1 with a cyano group at the position *para* to the iridium in order to arrive at a compound falling within the scope of claims 1-4 and 16 on the grounds that Igarishi teaches that (1) each ring of the complex may be substituted (paragraph [0014]), (2) cyano is a possible substituent (paragraph [0050]), (3) complex 1-31 is substituted with cyano at the position *meta* to the iridium (page 13), and that (4) Moore evidences that the substituent effects of *para*-substituted cyano is known to be similar to that of *meta*-substituted cyano. Applicants respectfully disagree and submit that the Examiner has failed to establish that claims 1-4 and 16 are *prima facie* obvious.

The Federal Circuit has held that, in order to establish *prima facie* obviousness on the basis of structural similarity between claimed and prior art subject matter, whether by combining references or otherwise, a showing that the “prior art would have suggested making the specific molecular modifications necessary to achieve the claimed invention” is required. *Takeda Chemical Industries, Ltd. v. Alphapharm Pty., Ltd.*, 492 F.3d 1350, 1356 (Fed. Cir 2007) (citing *In re Jones*, 958 F.2d 347 (Fed. Cir. 1992); *In re Dillon*, 919 F.2d 688 (Fed. Cir. 1990); *In re Grabiak*, 769 F.2d 729 (Fed. Cir. 1985); and *In re Lalu*, 747 F.2d 703 (Fed. Cir. 1984)). In other words, “in cases involving new chemical compounds, it remains necessary to identify some reason that would have led a chemist to modify a known compound in a particular manner to establish *prima facie* obviousness of a new claimed compound.” *Id.* at 1357.

The Examiner is correct that Igarishi teaches that the rings of its compounds of formula (3) can be substituted (paragraph [0029]) and that it discloses a cyano group as a possible substituent (paragraph [0050]). However, paragraph [0050] discloses a multitude of possible substituents for both rings of the compounds of formula (3) from which the skilled artisan can select. Igarishi provides no suggestion or motivation to select a cyano group over alkyl groups, aryl groups, alkoxy groups, amino groups, or groups that form condensed ring structures with each other as possible substituents. Igarishi also provides no suggestion or motivation to select

the phenyl ring of the compounds of formula (3) for substitution over the pyridine ring, nor does it provide any suggestion or motivation for substituting the phenyl ring at the position *para* to the iridium as opposed to the position *ortho* to the iridium or at either of the positions *meta* to the iridium. In an attempt to establish motivation on the part of the skilled artisan to substitute the phenyl ring of complex 1-1 with a cyano group, the Examiner points to complex 1-31, which allegedly “demonstrates” that a cyano group is also a “suitable” substituent for the phenyl ring of complex 1-1, and concludes that the skilled artisan would reasonably expect that such substitution of complex 1-1 would result in a compound “with similar properties suitable for the same purpose.” The Examiner provides no basis in Igarishi or in the prior art for this conclusion. Applicants note that Igarishi is silent as to the performance of complex 1-31 relative to its unsubstituted analog, complex 1-23. Without such comparative performance data, the skilled artisan is unable to assess what benefit, if any, can be derived from phenyl ring substitution of complex 1-23 with a cyano group and, thus, has no motivation to analogously substitute the phenyl group of complex 1-1.

The Examiner also asserts, based on the cyano group Hammett constants disclosed in Moore, that the skilled artisan would recognize a *para* substituted cyano group to be “equivalent” to a *meta* substituted cyano group, as employed in complex 1-31 of Igarishi. Applicants respectfully disagree that such art-recognized equivalence exists. As evidenced by page 203 of Advanced Organic Chemistry, Third Edition, by Carey and Sundberg (Exhibit D), it is generally known to the skilled artisan that Hammett constants are not predictive where direct resonance interaction with the aryl ring is possible. Applicants note that, in the case of cyano groups, direct resonance interaction is possible only in the *para* position, not in the *meta* position. As such, the skilled artisan would not recognize a *para* substituted cyano group to be “equivalent” to a *meta* substituted cyano group. Furthermore, even assuming *arguendo* that art-recognized equivalence existed, Applicants submit that the skilled artisan would have no motivation to “ring walk” the *meta* substituted cyano to the *para* position, since no improvement in properties would be anticipated as a result of the alleged “equivalence” of these two positions.

Applicants submit that Igarishi provides no suggestion or motivation to modify its complex 1-1 in the manner proposed by the Examiner. As such, the Examiner has failed to

establish claims 1-4 and 16 as *prima facie* obvious over Igarashi in view of Moore. Applicants respectfully request withdrawal of this rejection.

In view of the foregoing remarks, Applicants believe the pending application is in condition for allowance.

Payment in the amount of \$130.00 to cover the fee required by 37 C.F.R. § 1.17(a)(1) for a one-month extension of time is submitted concurrently herewith. Should any other fees be required in connection with this response, authorization is hereby made to charge any fees due or outstanding, including any extension fees, or credit any overpayment, to Deposit Account No. 03-2775, under Order No. 14113-00104-US, from which the undersigned is authorized to draw.

Dated: April 24, 2009

Respectfully submitted,

Electronic signature: /Eamonn P. Morrison/
Eamonn P. Morrison

Registration No.: 55,841
CONNOLLY BOVE LODGE & HUTZ LLP
1007 North Orange Street
P. O. Box 2207
Wilmington, Delaware 19899-2207
(302) 658-9141
(302) 658-5614 (Fax)
Attorney for Applicant